Fletcher says, but simply a 'spear-bearer,' is what our criticism was intended to convey.

Although it may be true enough that 'prior to the time of Phidias, *colossal* statues, when not of bronze, were *acroliths*, our criticism was directed to the author's broad assertion, which entirely ignored the existence of *ξόανα*.]

Writer of the notice of 'Human proportion.'

Geology of Philadelphia.

Will Professor Henry Carvill Lewis state where the term 'hydro-mica-slate' is used by H. D. Rogers, or in that portion of the report on Chester county written by the undersigned?

The word occurs seven times in the Lancaster county report; but in every case except the italics on p. 10, which the reference on the ninth line below shows to be a misprint, it is used in the sense defined in my criticism, and not as an equivalent for hydro-mica-schist. As his defence of the use of the other terms alluded to does not meet the objections, no further remark is necessary.

Persifor Frazer.

Sept. 28, 1883.

The chinch-bug in New York.

We have the chinch-bug (Blissus leucopterus Say) in New York in formidable numbers. Its appearance with us is of great interest, as hitherto the only record of its occurrence is that of Dr. Fitch, who, several years ago, saw three individuals of it upon willows in the spring. I had never before met with it in our state. Dr. Harris, you will remember, mentions having seen one example in Massachusetts. By some manner it has been introduced here, and I can think of no way so probable as that it has been brought in a freight-car from the west.

The locality of its occurrence is in St. Lawrence county, the most western of our northern counties. As it was for some time thought that the insect could not live north of 40° of latitude, this seems a strange locality for its first appearance.

Its operations were first noticed in a field of timothy-grass last summer, but the depredator was not then discovered. This summer the infested area had largely extended, and, upon a more thorough search being made, it was found in myriads — could be scooped up, it is stated, by handfuls — among the roots of the living grass bordering the killed area. In the fields infested, the timothy, June, and 'wire grass' are completely killed, so that they are succeeded the following season by thistles, weeds, and patches of clover. So far, it has not attacked wheat or corn, of which, however, very little is grown in St. Lawrence county.

I have just visited the infested locality, and I find it to be a very serious attack. It is rapidly extending to other than the two farms upon which it was observed last year, and it in all probability exists in many places where it has not yet been detected. Great alarm is felt throughout the district invaded, as the timothy-grass is the foundation of the grazing interests of that region. Clover, owing to the severity of the winters, cannot be grown to any extent. The most threatening feature of the attack is, that it has continued to increase, notwithstanding that this year and the preceding have both been unusually wet in northern New York. Garden-crops were killed by the heavy and continued rains; grass is lying in the meadows, which could not be secured; and so cold has the season been, that fields of oats are still unharvested. All writers have concurred in stating that the chinch-bug could not endure cold and wet seasons, and that heavy rains were invariably fatal to it. It really seems as if the new-comer was destined to be a permanent institution in the state.

The farmers are aroused to the importance of doing what they can to arrest and repel the invasion. I have recommended that it be fought with that valuable insecticide, kerosene-oil, emulsified and diluted; and, if generally used the ensuing spring, I have great faith in its proving efficient.

J. A. Lintner.

Office of the state entomologist
Albany, Oct. 9, 1883.

Ziphius on the New-Jersey coast.

A telegram was received at the Smithsonian institution on the 3d inst. from the keeper of the life-saving station at Barnegat City, N.J., announcing the stranding of a large cetacean at that place. Professor Baird immediately despatched the writer and a preparator from the museum to take charge of the specimen. On arriving at Barnegat City, I immediately perceived that we had to do with an example of an aged female of an interesting ziphioid whale; and, when the skull was cut out, it became evident that the animal was of the genus Ziphius. The specimen measures 19 feet 4 inches in length, and was apparently of a light stone-gray color, darkest on the belly. This disposition of color is unusual in cetaceans. The species is probably Z. cavisortris.

Mr. Palmer and myself succeeded in making a plaster mould of half the exterior, and in cutting out the complete skeleton.

The genus Ziphius has not, I believe, been hitherto recorded as occurring in the north-western Atlantic.

Frederick W. True,
Curator of mammals.

U. S. national museum,
Oct. 11, 1883.

THE DE LONG RECORDS.[1]

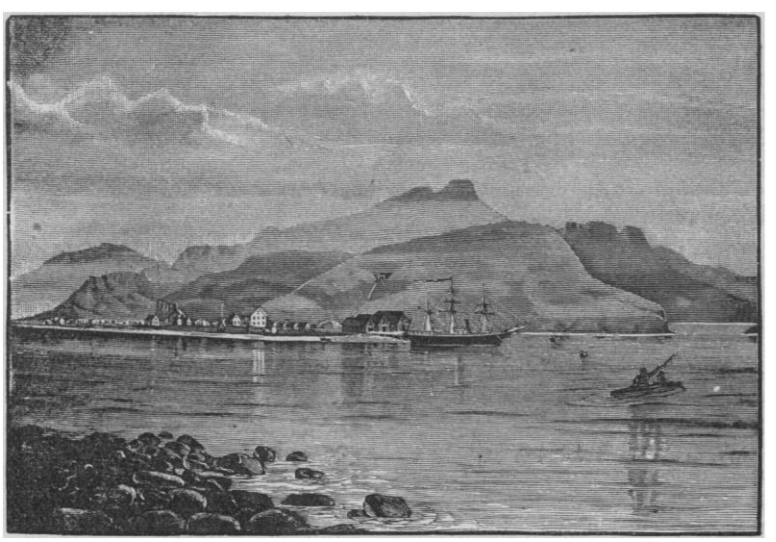
The voyage of the Jeannette. The ship and ice journals of George W. De Long, Lieut.-commander U.S.N., and commander of the polar expedition of 1879-81. Edited by his wife, Emma [Jane Wotton] De Long. 2 vols. Boston, *Houghton, Mifflin, & Co.*, 1883. 12+911 p., illustr. 8°.

The voyage of the Jeannette, owing to its connection with a great newspaper, has become, in its general features, familiar to all. The courage, endurance, and patience with which the members of the party met pain, peril, privation, and even death, will always remain a conspicuous example of manly quality. This expedition, however, was unique in several of its features, which should be taken into account in any judgment rendered upon its results. It was not an expedition for scientific research in the arctic regions. It was not scientifically planned. It had, so far as can be learned from the documents, no programme. Of its members, but two, a civilian and a seaman, had had any experience of an arctic winter; none had made any serious study of the physical conditions of the polar area; and, without

[1] For the woodcuts illustrating this article, the editor is indebted to the publishers of the work, Messrs. Houghton, Mifflin, & Co.

disrespect, it may be said, that, with the possible exception of two civilians, there was no one on board whose scientific acquirements rose above the daily needs of the intelligent practice of his profession. The object of the expedition, as far as may be surmised from the circumstances made public, seems to have been to determine what would be the result of a set-to between the arctic pack, cold and starvation on the one hand, and a shipful of inexperience and 'pure grit' on the other. The result is now known; and the innocent confidence with which both promoter and explorer undertook the task is one of the extraordinary features of this melancholy history. Under the circumstances, it is well that Mrs. De Long has made public her husband's records of the story, already twice told elsewhere. The account of the voyage is preceded by some details of the previous life of De Long, who, from an early age, showed evidence of great force of will and audacity, and who preserved until his death the religious convictions instilled by a fond and pious mother. There seems to have been no special turn for study in the lad, whose energy, nevertheless, carried him through the Naval academy with credit. The introduction to that friendship with Mr. Bennett which finally led to De Long's selection as commander of the arctic expedition, is left untold. It is evident that these two had a strong and well-founded friendship, and perfect mutual confidence. The voyage once determined upon, Mr. Bennett providing the vessel and the means, the government lending its naval organization and prestige, De Long had only to choose his party, and organize his plans. The first was soon, and, all must admit, remarkably well done. Certainly, no body of men ever stood harder test of fidelity to their commander than that little party, and with less flinching.

The vessel, it is now generally admitted, was tolerably well adapted to her purpose, and endured from the ice all that could be expected in like circumstances. The provisions, on the whole, turned out well; and the equipment, in the course of the expedition, showed no serious deficiencies. On the whole, then, well provided, and with much popular approbation and sympathy, the expedition departed on the 8th of July, 1879, from San Francisco. A *rendezvous* was had Aug. 2, at Unalaska, — that cosey little harbor which has received so many expeditions, and bravely borne up the barks of Kotzebue, of Lütke, of Levasheff, of Kruzenstern, of Sarycheff, and many more masters of exploration. Ten days afterward they anchored at St. Michael's, Norton Sound. Here dogs, furs, and coal were shipped; and then the Asiatic coast of Bering Strait was reached, and some time spent in endeavoring to determine the fate of Nordenskiöld. Here several

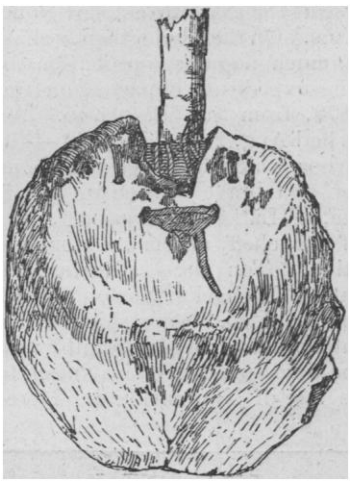


UNALASKA.

curious bone implements were collected, which are figured, but not referred to in the text. One of these we reproduce.

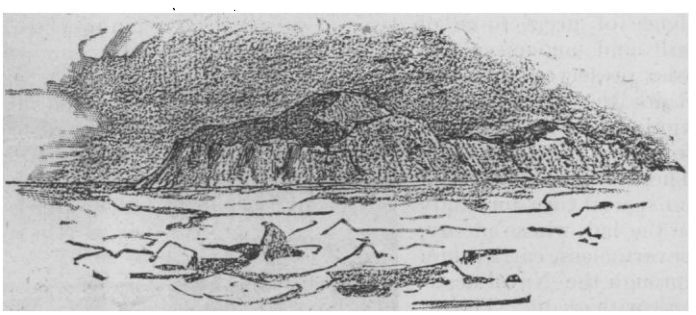
Pushing into the Arctic on Sept. 6, the vessel was beset in the pack north-eastward of Herald Island. From its rigid embrace she was never released, except to sink, a shattered wreck, beneath its surface, nearly two years later.

On Jan. 19, 1880, she received a wrench from an under-running tongue of ice, creating a leak, which remained a more or less constant source of anxiety. From this time until the 16th of May, 1881, the time passed uneventfully; the ship fast in the ice, which occasionally groaned, shrieked, crunched, or thundered, with the various motions imparted to it by wind and tide, threatening instant destruction to ship and party. A few bear and seal hunts, ordinary



BONE SHOVEL.

meteorological observations, the quarrels of the Eskimo dogs, innumerable devices for saving coal, pumping the ship dry, or preventing condensation of moisture within the living-rooms,—these things, and such as these, made up the characteristics of a life which eventually became almost unendurable in its monotony. Good health in general prevailed, owing to the extraordinary precautions planned by Dr. Ambler, and energetically put in force by the commander. No extreme temperatures (rated by the experience of other arctic voyages) were noted: indeed, the mildness, arctically speaking, of the temperatures experienced, is somewhat remarkable. The auroras do not seem to have been sufficiently brilliant to call for especial comment. The ice reached about six feet in thickness, and all parts of it contained more or less salt; while the precipitation of snow was insufficient to afford a supply of drinking-water by melting. On this account, water had to be distilled most of the time,—a process which used much invaluable fuel. Many of their experiences were such as had already been recorded by those who drifted with the Germania's crew, the Tegethoff, or the floating Polaris' party, of which the indefatigable Nindeman had been a member. Payer's conclusion that the motions of the arctic pack result from the friction upon its surface of the prevailing winds, was fully confirmed, and placed upon an impregnable basis, by the drift of the Jeannette. This is perhaps the most important generalization the history of the voyage affords. Another fact of value is the determination of the shallow character of this part of the arctic basin, which nowhere reached one hundred fathoms in depth, and was usually less than fifty fathoms. From the constant though moderate motion of the pack which held



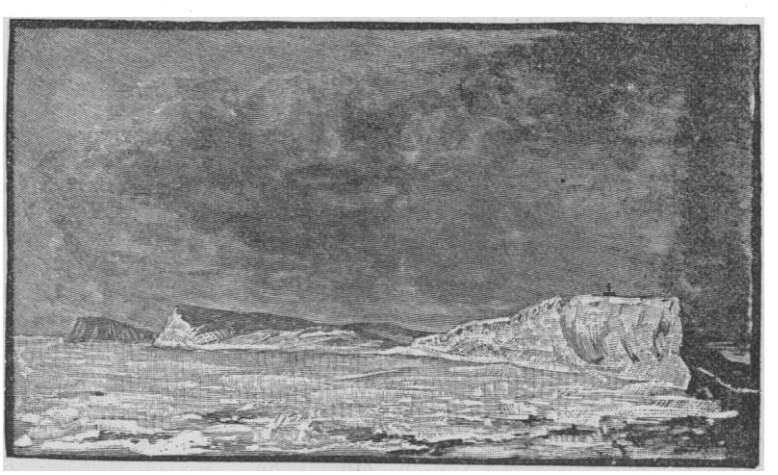
JEANNETTE ISLAND (FROM A SKETCH BY MR. MELVILLE).

the vessel, tidal observations were impracticable; and the disturbances of the surface so occasioned, also prevented the permanent occupation of an observatory away from the ship. Polar bears, seals, a fox or two, walrus, and a small number of birds, comprise the air-breathing vertebrates obtained. Some fish-bones were found on the ice, but it does not appear that any fishing was attempted. Vignettes from the pencil of Mr. Newcomb, who acted as naturalist of the expedition, are scattered through the text, and illustrate the scanty fauna in a neat and artistic way. On the 16th of May, 1881, land was seen bearing nearly west, which was named Jeannette Island. It proved to be a small rocky island with bold shores, and was situated in latitude 76° 47′, and east longitude 158° 56′. On the 24th another island was observed more to the north and west, which

A POLAR BEAR.

was named Henrietta Island. This was visited by Melville, with a small party, ten days later. After great difficulties, caused by the hummocky ice, they succeeded in landing upon it, and found it to be a desolate rock, surmounted by a snow-cap which discharged in several glaciers on the east side. Dovekies nesting on the face of the rock were the only sign of life about it other than a little stunted vegetation. But a great change was at hand. Motions and fractures of the ice increased; and the ship was evidently in serious danger, which was accordingly provided for. On June 12, 1881, the Jeannette yielded to the irresistible pressure, and at four o'clock the next morning she sank. The retreat was then organized and begun, with several men on the sick-list in addition to the usual difficulties offered by rough, broken, and fissured ice. After a little, De Long made the painful discovery that the ice was drifting northward faster than they were able to travel in a southerly direction. The course was therefore altered to cross the drift in a south-westerly direction, in the hope of escaping from the moving area. About the middle of July more land was observed, and on the 28th the party succeeded in landing upon it after almost incredible exertions. This land, the loom of which had been reported by Russian explorers on the New Siberian Islands many years ago, but which had never been definitely verified or charted, was named Bennett Island; and we observe that in the map accompanying the work, this and the others are very appropriately included under the name of the De Long Islands. Coal, hematite, fossiliferous limestone, clay, and lavas were observed on this island, and, more important for the party, myriads of sea-fowl breeding in the rocky cliffs. There were several glaciers, and, to one hundred feet above the sea, masses of drift-wood embedded in the soil, indicating tolerably recent elevation of the land. Hence by way of the New Siberian Islands, touching at Thaddeieff, Kotelnoi, Semeonoffski, the party made their way, but became separated in a gale of wind on the 12th of September, after which the smallest boat, with its crew, was never heard from; and finally the two remaining boats reached the shores of the Lena delta. De Long landed on the north Sept. 17, and Melville the previous day reached the south-eastern angle, and entered a branch of the river. It is not necessary to recapitulate the circumstances which attended the retreat, — the heroic journey of Nindeman and Noros, the indefatigable search of Melville, the final recovery of the remains, and their temporary interment on Monument Hill, looking out upon the flat stretches

BENNETT ISLAND AS SEEN IN THE DISTANCE, JULY 19.



MONUMENT HILL, JENA DELTA.

of the delta. These facts are the property of the public, which has not failed to appreciate the heroic qualities exhibited, nor to observe that the disastrous result of this unfortunate expedition offers in great part its own explanation. If it teach the aspiring that mere uninstructed courage cannot take the place of science, De Long and his people will not have died in vain. That this lesson should be especially emphasized, from recent events in another part of the arctic regions, will occur to most of our readers. Perhaps it would be well to permit future candidates for such work to convince themselves by trial, that the most exalted bravery will not enable the inexperienced to milk a fractious cow; and that, if so simple a matter requires knowledge and experience, it may be well to hesitate before assuming the fearful responsibility of hazarding the lives of even willing subordinates, without reasonable preparation for the problems offered by all serious arctic work, whether of exploration or retreat. Tenderness toward the dead should not be for an instant permitted to befog this self-evident truth, the statement of which is a duty owed, not merely to those who may hereafter attempt arctic exploration, but on behalf of scientific training everywhere.

STEP'S PLANT-LIFE.

Plant-life: popular papers on the phenomena of botany. By Edward Step. With 148 illustrations drawn by the author, and engraved by W. M. R. Quick. New York, *Holt & Co.*, 1883. 12+218 p. 12°.

Year by year there is what may be termed a noticeable amelioration in the character of the botanical literature which appears in this country. By this we mean no discourtesy to the authors of the many excellent works which have appeared from time to time. In certain scientific lines, the botanical literature of the United States has been both voluminous and of a high order of excellence. In systematic botany, the publications of Torrey, Gray, Eaton, and Watson (to mention only a few of the later workers) have not been excelled anywhere. We may justly feel a national pride in such magnificent books as the two volumes of the Botany of California, the Botany of the Clarence King reports and of the Wheeler reports, the Ferns of North America, etc. Then, too, our school and college books have been worthy of their authors. What country was ever supplied with better field-manuals than Gray's or Wood's? and where can one find as good a treatise on the morphology of the phanerogams as Dr. Gray has given us in the latest edition of his Structural botany?

All these, however, are for students and botanists proper. They were not designed for the general reader, — the man who does not take botany in such dreadful earnest as do the botanists, but who asks of the gentle science that it shall please and amuse him. Our scientific botanists have been too busy with the serious matter of instructing their classes of young people in school and college, to turn aside and furnish entertaining reading for the unbotanical. We can scarcely blame them for thus neglecting the great outside world, when the small world of the classroom required all their time and strength; and yet we cannot help feeling that it would have been better for the botanists, as well as for botany itself, had they compelled themselves to find time for those lighter works which have, in other countries, been at once the recreation of the scientific man and the pleasure of the general reader.

In the work before us we have an example of what may be done in the way of putting the main facts of biological botany before the unbotanical in plain and easy English, and in such a way as to be attractive and interesting. We wish its English author were an American; but, that being an impossibility, it is most gratifying that the Messrs. Holt have brought out so neat an American edition.

It is, of course, to be expected that there is nothing new botanically in such a book; so that those who are fairly well equipped with a knowledge of recent botanical literature need not take it up in the hope of gleaning any new facts. It is only what its titlepage indicates, — an aggregation of popular papers on some of the phenomena of botany. They are not profound, nor are they so arranged as to present themselves as a series of connected lessons. They are rather like lightly drawn sketches, — now of this interesting view of a portion of the plant-world, and now of that. Thus we have a chapter on microscopic plants, another on plant structure and growth, one on the fertilization of flowers, followed by others on predatory plants, remarkable flowers and leaves, and about a fern. Then we have the folk-lore of plants, plants and animals, mosses and lichens, etc. So the chapters (fourteen in all) run on through the book, there being a delightful alternation of the structural with those which deal with sentimental or poetical considerations.

Considering the nature of the book, the errors are remarkably few. Here and there,